



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,357	03/24/2004	Yasuaki Hamada	119223	5383

25944 7590 07/31/2006

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

NGUYEN, THINH T

ART UNIT	PAPER NUMBER
----------	--------------

2818

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/807,357

Applicant(s)

HAMADA ET AL.

Examiner

Thinh T. Nguyen

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) 7-16 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/24/04, 8/3/04.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED OFFICE ACTION

Election/Restriction

1. Applicant's election **with traverse** of claims **1-6** in the communication with the Office on 6/1/2006 is acknowledged.

The traversal is on the ground(s) that the search for the whole application is not a burden for the Office. The Examiner respectfully disagrees.

As evidenced by four different classes that exist in the application (see the previous Office Action paragraph 3) , the search will be a heavy burden for the Office.

Moreover, the Examiner already point out in the previous Office Action that the inventions are distinct, each from the other because of the following reasons:

Inventions of group II and group I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the Capacitor can be patentable with a novel electrode. The subcombination has separate utility such as: the claimed ferroelectric material can be used in other applications such as gate dielectric for semiconductor transistor devices.

The requirement is still deemed proper and is therefore made **FINAL** and non-elected claims 14-16 are withdrawn from consideration and only elected claim 1-6 are considered

Specification

2. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant cooperation is requested in correcting any errors of which the applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b) that form the basis for the rejections under this section made in this office action.

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1,3-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura et al. (US patent 5,378,382) .

REGARDING CLAIM 1

Nishimura discloses (column 1 line 27-37) a ferroelectric material for forming a ferroelectric that is described by a general formula ABO.sub.3, the ferroelectric material comprising an A-site compensation component (column 4 line 15-22) which compensates for a vacancy of an A site, and a B-site compensation component which compensates for a vacancy of

Art Unit: 2818

a B site (column 2 lines 48-63). Noted that Nishimura discloses a PZT material and PZT (Lead Zirconium Titanate) is a ferroelectric material .

REGARDING CLAIM 3

Nishimura discloses (column 1 line 27,column 2 line 56) a lead zirconium Titanate PbZrTiO_3 ferroelectric material., comprising constituent elements for lead zirconate titanate, wherein an element which becomes a divalent state and an element which becomes a trivalent state are added as the A-site compensation component. (column 3 lines 25-27).

Noted that Nishimura discloses the use of lanthanum and calcium for A-site and lanthanum is trivalent and calcium is divalent.

REGARDING CLAIM 4

Nishimura discloses (column 1 line 27,column 2 line 56) a lead zirconium Titanate PbZrTiO_3 ferroelectric material wherein an element that becomes a pentavalent state is added as the B-site compensation component (column 2 line 54-56).

Noted that Nishimura discloses the use of Niobium (Nb) for B-site and Niobium is pentavalent.

REGARDING CLAIM 5,6

Nishimura discloses the use of Lanthanum (La) and Lanthanum is the main element of the Lanthanoid (see Nishimura column 2 line 55) and Lanthanum is trivalent.

Claim Rejections - 35 USC § 103

5. The following is a quotation of U.S.C. 103(a) which form the basis for all obviousness rejections set forth in this office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura (U.S. patent 5,378,582) in view of Nabatame et al. (European Patent Application EP 1 039 525 A1).

With regard to claim 2 as set forth in the rejection of claim 1 , Nishimura discloses all the invention except for the limitation wherein each of the A-site compensation component and the B-site compensation component is an oxide, which includes Si or Ge in constituent elements or an oxide, which includes Si, and Ge in constituent elements. Nabatame, however, teaches to add Silicon amorphous Si compound into the Ferromagnetic material to improve the characteristic of the Ferroelectric material (Nabatame column 8 lines 57-58, column 9 lines 1-16)

It would have been obvious to one of ordinary skill in the art the time the invention was made to incorporate this feature , as taught by Nabatame, into the Nishimura invention and come with the invention of claim 2.

The rationale is as the following:

A person skilled in the art at the time the invention was made would have been motivated to come up with a superior material as suggested by Nabatame in column 9 lines 1-16.

7. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and the page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

8. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to be abandoned (see M.P.E.P. 710.02(b)).

9. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) which papers have been placed of record in the file.

CONCLUSION

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790.

The examiner can normally be reached on Monday-Friday 9:30am-6: 30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached at 571-272-1907.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2818

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval [PAIR] system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thinh T. Nguyen

Art Unit 2818


